

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: RSA

Report Number: P219893

Luminaire Tested: **MRZ-1-REC-X-2-L35-80-WFL-UNV-X-STD-LSL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P219893
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14882)
Test Lab: INNOVATION CENTER (G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: RSA
Catalog Number: MRZ-1-REC-X-2-L35-80-WFL-UNV-X-STD-LSL
Description: MRZ INTEGRAL LED DOWNLIGHT
55 DEGREE WIDE FLOOD OPTIC WITH LINEAR SPREAD LENS, LIGHT LEVEL2
Light Source: (1) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 669.3 lumens
Efficiency: N/A
Efficacy: 76.1 lumens/watt
Spacing Criteria (0/90/45): 0.88 / 0.83 / 0.87
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

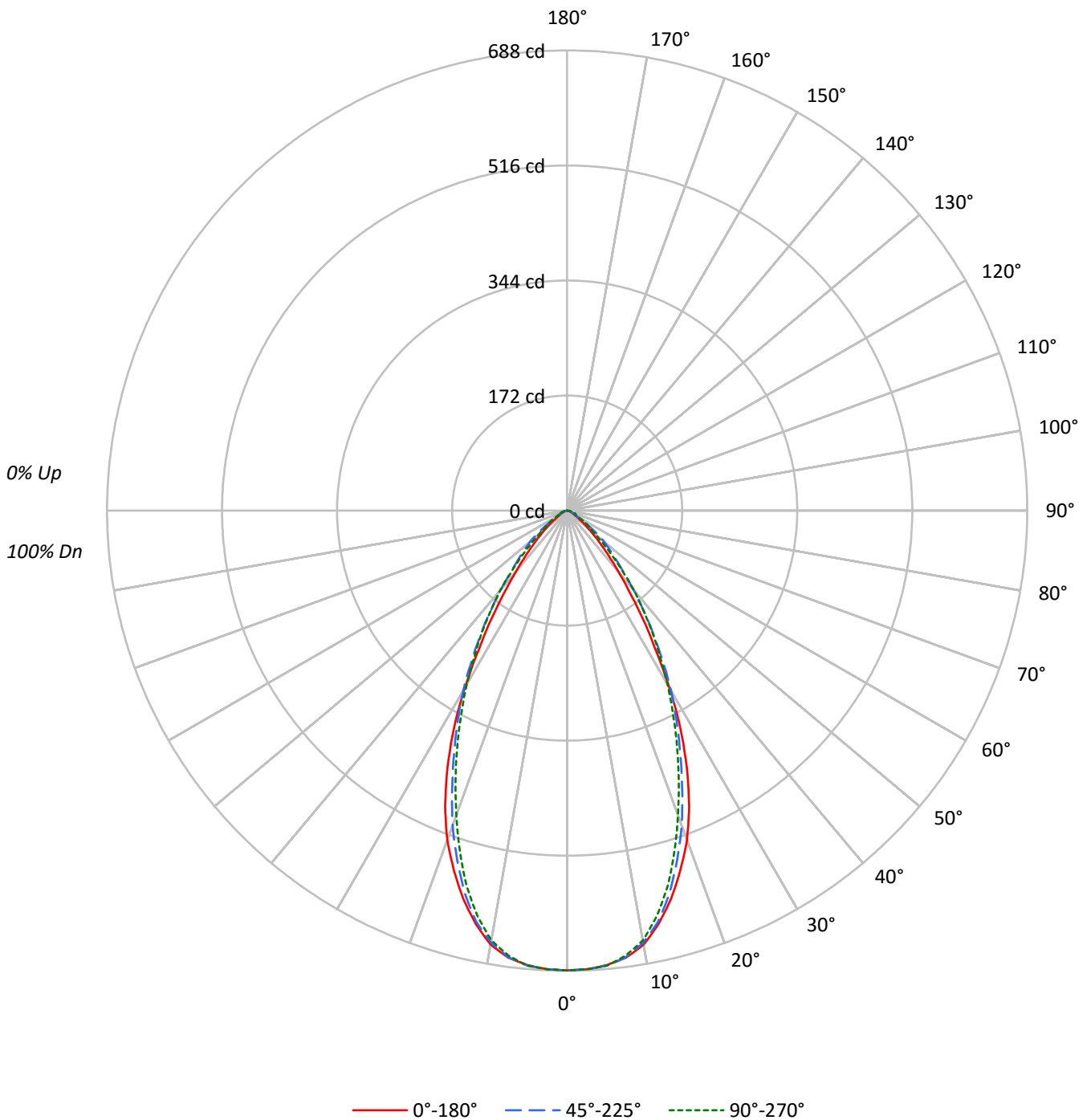
Input Watts (W): 8.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	96	95	94	92		
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	92	92	90	89	88	86	84	
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84	84	84	83	82	81	79	77	
3	100	93	88	83	98	92	87	83	89	85	81	87	83	80	84	81	79	77	77	77	76	75	74	73	71	
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	76	73	71	71	71	70	69	68	67	65	
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65	65	65	64	63	62	61	59	
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61	61	61	60	59	58	57	55	
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	66	61	58	56	56	56	55	54	53	52	50	
8	76	66	59	55	75	65	59	55	64	58	54	63	58	54	62	57	54	52	52	52	51	50	49	48	46	
9	72	62	55	51	71	61	55	51	60	55	51	59	54	51	58	54	50	49	49	49	48	47	46	45	43	
10	68	58	52	48	67	58	52	48	57	51	48	56	51	47	55	51	47	46	46	46	45	44	43	42	40	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	339198	339198	339198
5°	337770	338315	338315
10°	330153	328500	326846
15°	306879	302384	296766
20°	275070	262942	254279
25°	230166	217645	211657
30°	173931	177065	170798
35°	118413	134977	133652
40°	76386	99057	99765
45°	49051	72007	66704
50°	31163	54804	41295
55°	18924	31139	30192
60°	11940	17367	19538
65°	8989	12842	14126
70°	7934	11108	19042
75°	6291	8388	12581
80°	3125	6251	9376
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.3	9.6
10°-20°	163.9	24.5
20°-30°	184.5	27.6
30°-40°	136.5	20.4
40°-50°	72.8	10.9
50°-60°	29.9	4.5
60°-70°	11.7	1.7
70°-80°	5.2	0.8
80°-90°	0.5	0.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	412.8	61.7
0°-40°	549.3	82.1
0°-60°	651.9	97.4
0°-90°	669.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	669.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	688	688	688	688	688	
5°	682	682	683	683	683	64
15°	601	595	592	584	581	167
25°	423	417	400	392	389	192
35°	197	215	224	222	222	124
45°	70	79	103	102	96	56
55°	22	26	36	34	35	21
65°	8	11	11	13	12	8
75°	3	3	4	7	7	3
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	687.5	687.5	687.5	687.5	687.5	687.5	687.5	687.5	687.5	687.5	687.5
2.5°	686.4	686.4	686.4	686.4	686.4	686.4	686.4	686.4	686.4	686.4	686.4
5°	682.0	682.0	682.0	682.0	682.0	682.0	682.0	683.1	682.0	683.1	683.1
7.5°	674.3	673.3	673.3	673.3	673.3	673.3	673.3	673.3	673.3	673.3	673.3
10°	659.0	657.9	657.9	655.7	656.8	655.7	655.7	655.7	655.7	655.7	655.7
12.5°	632.6	632.6	631.5	630.4	629.3	629.3	629.3	629.3	629.3	629.3	629.3
15°	600.8	600.8	599.7	597.5	596.4	595.3	594.2	594.2	593.1	593.1	592.0
17.5°	563.4	563.4	561.2	559.0	556.8	555.7	553.5	551.3	550.2	549.1	546.9
20°	523.9	523.9	520.6	519.5	515.1	514.0	510.7	507.4	503.0	501.9	500.8
22.5°	476.7	474.5	473.4	473.4	470.1	467.9	465.7	461.3	454.7	452.5	449.2
25°	422.8	421.7	421.7	420.6	419.5	417.3	418.4	415.2	409.7	405.3	399.8
27.5°	366.8	365.7	364.6	365.7	367.9	367.9	366.8	364.6	362.4	356.9	353.6
30°	305.3	305.3	307.5	310.8	314.1	315.2	316.3	315.2	314.1	310.8	310.8
32.5°	244.9	247.1	249.3	257.0	260.3	262.5	263.6	266.9	266.9	266.9	264.7
35°	196.6	196.6	201.0	206.5	210.9	215.3	216.4	220.8	224.1	224.1	224.1
37.5°	152.7	153.8	158.2	162.5	168.0	170.2	172.4	179.0	183.4	185.6	186.7
40°	118.6	120.8	123.0	127.4	132.9	134.0	136.2	141.7	147.2	151.6	153.8
42.5°	92.3	92.3	94.5	97.7	101.0	104.3	106.5	109.8	116.4	119.7	124.1
45°	70.3	71.4	72.5	74.7	78.0	79.1	81.3	85.7	90.1	94.5	103.2
47.5°	53.8	53.8	54.9	56.0	59.3	60.4	61.5	65.9	70.3	79.1	85.7
50°	40.6	40.6	40.6	41.7	43.9	46.1	47.2	50.5	59.3	65.9	71.4
52.5°	29.7	29.7	29.7	31.9	32.9	34.0	35.1	39.5	50.5	51.6	53.8
55°	22.0	22.0	22.0	23.1	25.3	26.4	27.5	35.1	37.3	40.6	36.2
57.5°	16.5	16.5	16.5	17.6	18.7	19.8	22.0	27.5	30.8	26.4	25.3
60°	12.1	12.1	12.1	13.2	15.4	16.5	18.7	20.9	20.9	18.7	17.6
62.5°	9.9	9.9	9.9	9.9	12.1	14.3	14.3	16.5	14.3	13.2	13.2
65°	7.7	7.7	7.7	8.8	9.9	11.0	12.1	11.0	9.9	9.9	11.0
67.5°	6.6	6.6	6.6	6.6	8.8	8.8	8.8	7.7	7.7	7.7	8.8
70°	5.5	5.5	5.5	5.5	6.6	6.6	6.6	5.5	5.5	6.6	7.7
72.5°	4.4	4.4	4.4	5.5	5.5	5.5	4.4	4.4	4.4	5.5	5.5
75°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	4.4	4.4	4.4
77.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	3.3	3.3	3.3
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.2
82.5°	0.0	1.1	1.1	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	687.5	687.5	687.5	687.5	687.5	687.5	687.5	687.5	687.5	687.5
2.5°	686.4	686.4	687.5	686.4	686.4	686.4	686.4	686.4	686.4	686.4
5°	683.1	683.1	683.1	683.1	683.1	683.1	683.1	683.1	683.1	683.1
7.5°	673.3	673.3	673.3	672.2	672.2	672.2	672.2	672.2	672.2	671.1
10°	655.7	655.7	654.6	653.5	654.6	652.4	652.4	651.3	651.3	652.4
12.5°	628.2	627.1	624.9	624.9	623.8	622.7	621.6	621.6	620.5	620.5
15°	592.0	589.8	587.6	586.5	584.3	585.4	584.3	582.1	582.1	581.0
17.5°	548.0	545.8	542.6	539.3	539.3	538.2	538.2	536.0	534.9	533.8
20°	497.5	496.4	495.3	492.0	490.9	488.7	486.5	486.5	483.2	484.3
22.5°	447.0	445.9	443.7	442.6	440.4	440.4	438.2	438.2	436.0	436.0
25°	398.7	397.6	395.4	394.3	392.1	392.1	389.9	391.0	388.8	388.8
27.5°	350.4	349.3	347.1	348.2	346.0	344.9	343.8	343.8	342.7	342.7
30°	306.4	303.1	303.1	302.0	300.9	300.9	300.9	298.7	298.7	299.8
32.5°	263.6	261.4	260.3	260.3	261.4	260.3	259.2	259.2	258.1	257.0
35°	224.1	223.0	221.9	221.9	221.9	221.9	221.9	221.9	221.9	221.9
37.5°	186.7	187.8	186.7	187.8	188.9	187.8	186.7	185.6	185.6	185.6
40°	154.9	157.1	158.2	156.0	154.9	154.9	153.8	154.9	153.8	154.9
42.5°	129.6	130.7	128.5	129.6	130.7	130.7	128.5	125.2	123.0	121.9
45°	105.4	107.6	113.1	105.4	102.1	101.0	97.7	96.6	95.6	95.6
47.5°	90.1	94.5	83.5	80.2	78.0	78.0	75.8	73.6	73.6	72.5
50°	73.6	64.8	62.6	60.4	58.2	57.1	56.0	54.9	54.9	53.8
52.5°	49.4	47.2	45.0	43.9	42.8	42.8	42.8	42.8	42.8	42.8
55°	35.1	34.0	32.9	34.0	34.0	35.1	36.2	36.2	36.2	35.1
57.5°	24.2	24.2	26.4	28.6	28.6	28.6	28.6	27.5	27.5	27.5
60°	18.7	19.8	22.0	22.0	22.0	23.1	22.0	20.9	19.8	19.8
62.5°	14.3	16.5	17.6	17.6	16.5	16.5	15.4	15.4	15.4	15.4
65°	12.1	13.2	13.2	13.2	13.2	12.1	11.0	11.0	12.1	12.1
67.5°	9.9	9.9	9.9	8.8	8.8	9.9	11.0	12.1	12.1	13.2
70°	7.7	7.7	7.7	8.8	9.9	9.9	12.1	12.1	13.2	13.2
72.5°	5.5	5.5	7.7	8.8	9.9	9.9	9.9	8.8	8.8	8.8
75°	4.4	5.5	7.7	6.6	6.6	6.6	6.6	6.6	6.6	6.6
77.5°	3.3	4.4	4.4	3.3	4.4	4.4	4.4	5.5	5.5	6.6
80°	2.2	2.2	2.2	2.2	2.2	2.2	3.3	3.3	3.3	3.3
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)